

WHAT IS CLAIMED IS:

1. A communications method of performing communications by switching over a plurality of communication modes, comprising:

5 measuring a communication performance based on each of the communication modes under a plurality of communication conditions;

obtaining a condition-based optimum communication mode in which the communication performance in the specific

10 communication mode exceeds a communication performance in other communication mode per communication condition; and

selecting the condition-based optimum communication mode in accordance with the communication condition when in communications, and thus performing the communications.

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2. A communications device for performing communications by switching over a plurality of communication modes, comprising:

a performance measuring module for measuring a
20 communication performance based on each of the communication modes under a plurality of communication conditions;

a optimum mode obtaining module for obtaining a condition-based optimum communication mode in which the communication performance in the specific communication mode
25 exceeds a communication performance in other communication mode per communication condition based on the measured communication performance; and

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a selection module for selecting the condition-based optimum communication mode in accordance with the communication condition when in communications.

- 5 3. A communications method of temporarily storing storage unit with transfer data restricted to a maximum data size as a basis for a data transfer, comprising:

operating said storage unit with a different operation quantity;

- 10 measuring a completion time of each operation;
obtaining a change in the completion time with respect to a change in the operation quantity; and
determining the maximum data size within a range of the operation quantity in which the change in the completion time
15 is within a predetermined value, and thus performing the communications.

4. A communications device capable of changing a maximum data size as a basis for a data transfer, comprising:

20 a storage unit for temporarily storing transfer data restricted to the maximum data size;

a storage unit operating module for operating said storage unit with a designated operation quantity;

25 a performance measuring module for measuring a completion time of each operation with said operation module operating said storage unit by designating a different operation quantity;

a calculation module for obtaining a change in the

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completion time with respect to a change in the operation quantity; and

a determining module for determining the maximum data size within a range of the operation quantity in which the change
5 in the completion time is within a predetermined value.

3 5. A communications device comprising:

a network driving module for transmitting data to a network and receiving the data from the network;

10 a control module for controlling communications by transferring and receiving the data to and from said network driving module;

a plurality of storage areas used for transferring and receiving the data between said network driving module and said
15 control module;

20 a performance measuring module for measuring a data transferring/receiving time when transferring and receiving data having a different data size between said network driving module and said control module by use of said plurality of storage areas;

25 an optimum area obtaining module for obtaining an optimum storage area in which the data transferring/receiving time per data size using the specific storage area is under a data transferring/receiving time per data size using other storage area; and

a selection module for selecting the optimum storage area in accordance with the data size when in communications.

6. A readable-by -computer recording medium recorded with a program for communications by switching over a plurality of communication modes, said program comprising:

- 5 a step of measuring a communication performance in each of the communication modes under a plurality of communication conditions;
- 10 a step of obtaining a condition-based optimum communication mode in which the communication performance in the specific communication mode exceeds a communication performance in other communication mode per communication condition; and
- 15 a step of selecting the condition-based optimum communication mode in accordance with the communication condition when in communications, and thus performing the communications.

7. A readable-by -computer recording medium recorded with a program for communications by temporarily storing storage 20 unit with transfer data restricted to a maximum data size as a basis for a data transfer, said program comprising:

- a step of operating said storage unit with a different operation quantity;
- a step of measuring a completion time of each operation;
- 25 a step of obtaining a change in the completion time with respect to a change in the operation quantity; and
- a step of determining the maximum data size within a range

of the operation quantity in which the change in the completion time is within a predetermined value, and thus performing the communications.

- 5 8. A communications device according to claim 2, further comprising:

means for storing the condition-based optimum communication mode,

wherein said performance measuring module measures the
10 communication performance in the communications with said other communications device if not stored with the condition-based optimum communication mode in the communications with other communications device when performing the communications with said other communications device, and

15 said optimum mode obtaining module obtains the condition-based optimum communication mode.

9. A communications device according to claim 4, wherein pieces of information on the operation quantity and the
20 completion time or the maximum data size are exchanged in said plurality of communications devices connected to each other, and

25 said determining module determines the maximum data size in common to said plurality of communications devices connected to each other.

10. A communications device according to claim 4, wherein

said performance measuring module periodically measures the completion time of the operation, and

said determination module periodically determines the maximum data size as a basis for the data transfer on the basis
5 of the measured completion time.

11. A communications device according to claim 5, wherein
said performance measuring module periodically measures the
data transferring/receiving time.

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